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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/542,137

07/12/2005

Peter-Andre Redert

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PHILIPS INTELLECTUAL PROPERTY & STANDARDS

P.O. BOX 3001

BRIARCLIFF MANOR, NY 10510

EXAMINER

SINGH, SATWANT K

ART UNIT

PAPER NUMBER

2625

MAIL DATE

DELIVERY MODE

06/16/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/542,137	Applicant(s) REDERT ET AL.	
	Examiner SATWANT K. SINGH	Art Unit 2625	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 March 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 and 12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 and 12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 July 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. This office action is in response to the amendment filed on 19 March 2009.

Response to Arguments

2. Applicant's arguments with respect to claims 1 and 12 have been considered but are moot in view of the new ground(s) of rejection.

Claim Objections

3. Claim 12 is objected to because of the following informalities: It appears to the examiner that claim 12 should have been numbered as claim 11. Appropriate correction is required.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1-10 and 12 are rejected under 35 U.S.C. 102(e) as being anticipated by Medioni et al. (US 7,103,211).
6. Regarding Claim 1, Medioni et al discloses a method for acquiring a substantially complete depth map from a 3-D scene with the steps of: a)

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acquiring at least one image of said 3-D scene using less than three cameras (Fig. 1A, camera 110) (col. 7, lines 8-10), b) acquiring partial depth map from said least one image (two adjacent views are treated as a stereo pair and used to generate partial depth maps) (col. 5, lines 13-32), c) acquiring derivatives of depth information from said at least one image (a Plessey corner extractor which is a derivative filter of the first order is initialized to detect a pre-defined number of features under the conditions specific to the face area of the picture) (col. 8, lines 5-16), d) extending said partial depth map by adding non-relevant information to said partial depth map, creating a pixel dense full depth map being spatially consistent with both said partial depth map and said derivatives of depth information (Fig. 6A) (determining a spatial system of camera posed from each of the valid image frames and feature points accurate enough to be used as an initial starting point) (col. 9, lines 19-30).

7. Regarding Claim 2, Medioni et al discloses a method, characterized in that said non-relevant information extending said depth map is calculated by maximizing a probability function containing said non-relevant information, said partial depth map and said derivatives of said depth map (Fig. 6A) (processing outlier features rejection and coarse camera estimation) (col. 9, lines 19-30).

8. Regarding Claim 3, Medioni et al discloses a method, characterized in that said partial depth information and said derivatives of depth information is acquired by quantitative image processing (Plessey corner extractor) (col. 8, lines 5-16).

9. Regarding Claim 4, Medioni et al discloses a method, characterized in that said partial depth information is acquired by detecting a local amount of image

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texture, and determining depth from spatially high textured areas (3D mesh is generated incrementally generated incrementally by triangulating the matched or tracked feature using the computed camera pose, subsequently, the mesh is textured with reference to one or more of the image frames) (col. 5, lines 13-32).

10. Regarding Claim 5, , Medioni et al discloses a method, characterized in that said partial depth information and said derivatives of depth information is acquired by qualitative image processing (Plessey corner extractor) (col. 8, lines 5-16).

11. Regarding Claim 6, Medioni et al discloses a method, characterized in that said partial depth information is acquired by object segmentation to determine objects within said at least one image and by detecting the ordering of objects (each image frame is subdivided into small regions) (col. 8, lines 5-16).

12. Regarding Claim 7, Medioni et al discloses a method, characterized in that human depth perception is modeled by depth sensors and that said pixel dense full depth map is calculated based on properties of said depth sensors (Fig. 5A) (col. 8, lines 54-65).

13. Regarding Claim 8, Medioni et al disclose a method, characterized in that said pixel dense full depth map is calculated by perturbing pixel values not defined by said partial depth map and said derivatives of said depth map and minimizing said probability function (Fig. 5A, block 506) (features that would be extracted outside of the face segmented area are discarded) (col. 8, lines 54-65).

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14. Regarding Claim 9, Medioni et al discloses an integrated circuit providing image processing of said at least one image (computing device is loaded with a 3D modeling module implementation) (col. 6, lines 47-60).

15. Regarding Claim 10, Medioni et al discloses a method, for use in consumer electronics, television and computer vision products (modeling mechanism that can be easily deployed, for example in a home computer with a web camera) (col. 5, lines 29-32).

16. Regarding Claim 12, Medioni et al discloses a system for acquiring a substantially complete depth map from a 3-D scene, the system comprising: a) less than three cameras for acquiring at least one image of said 3-D (Fig. 1A, camera 110) (col. 7, lines 8-10); and, b) an integrated circuit for providing image processing of said at least one image (computing device is loaded with a 3D modeling module implementation) (col. 6, lines 47-60), said integrated circuit comprising: c) acquiring partial depth map from said at least one image (two adjacent views are treated as a stereo pair and used to generate partial depth maps) (col. 5, lines 13-32), d) acquiring derivatives of depth information from said at least one image (a Plessey corner extractor which is a derivative filter of the first order is initialized to detect a pre-defined number of features under the conditions specific to the face area of the picture) (col. 8, lines 5-16), and e) extending said partial depth map by adding non-relevant information to said partial depth map, creating a pixel dense full depth map being spatially consistent with both said partial depth map and said derivatives of depth information (Fig. 6A) (determining a spatial system of camera posed from each of the valid image

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frames and feature points accurate enough to be used as an initial starting point) (col. 9, lines 19-30).

Conclusion

17. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to SATWANT K. SINGH whose telephone number is (571)272-7468. The examiner can normally be reached on Monday thru Friday 8am - 4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward L. Coles can be reached on (571) 272-7402. The

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fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Edward L. Coles/
Supervisory Patent Examiner, Art Unit 2625

/Satwant K. Singh/
Examiner, Art Unit 2625

sks